CLAIMS

1. A method of cleaving a peptide bond in a desired protein comprising contacting the desired protein with a protease comprising a sequence selected from the group consisting of SEQ ID NOs. 1 – 92, under conditions wherein the protease hydrolyzes at least one peptide bond in the desired protein.

2. A method for identifying a compound that modulates the activity of a protease comprising: (a) contacting a protease having an amino acid sequence selected from the group consisting SEQ ID NOs. 1-92, or a functional fragment or variant thereof, with a test compound; (b) measuring the activity of the protease before and after the contacting step; and (c) determining whether the test compound modulates the activity of the protease.

3. The method according to claim 2, wherein step (c) comprises measuring the level of proteolytic activity or hydrolytic activity.

4. The method according to claim 2, wherein step (c) comprises measuring the amount of product generated from cleavage of a substrate by the protease.

5. The method according to claim 2, wherein the test compound is an inhibitor of proteolytic function of the protease.

6. A method for identifying a compound that modulates the activity of a protease in a cell comprising: (a) expressing, in a cell, a protease having an amino acid sequence selected from the group consisting SEQ ID NOs 1-92; (b) exposing the cell to a test compound; and (c) monitoring an alteration in cell phenotype or proteolytic activity.

7. A method for treating a disease or disorder by administering to a patient in need of such treatment a compound that modulates the activity of a protease having an amino acid sequence selected from the group consisting of SEQ ID NOs 1-92.

8. The method according to claim 7, wherein the patient is a mammal.

9. The method according to claim 7, wherein the mammal is selected from the group consisting of a human, primate, rat, mouse, rabbit, pig, cattle, sheep, goat, cat and dog.

10. The method according to claim 9, wherein the mammal is a human.

11. The method according to claim 7, wherein the disease or disorder is selected from the group consisting of cancers, immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases, and metabolic disorders.

12. The method according to claim 11, wherein said disease or disorders are cancers.

13. The method according to claim 12, wherein the cancers involve at least one gene selected from the group consisting of: GD2, Lewis-Y, 72 kd glycoprotein, CO17-1A, TAG-72, CSAg-P, 45kd glycoprotein, HT-29 ag, NG2, A33, 38kd gp, MUC-1, CEA, EGFR, HER2, HER3, HER4, HN-1 ligand, CA125, Syndecan-1, Lewis-X, PgP, FAP, EDG Receptors, ED-B, Laminin-5, Cox-2, AlphaVbeta3 integrin, AlphaVbeta5 integrin, uPAR, Endoglin and the Folate receptor osteopontin.

14. The method according to claim 13, wherein the gene is at least one of CEA, TAG72, EDB, FAP, AlphaVbeta3 integrin and AlphaVbeta5 integrin.

15. The method according to claim 12, wherein said cancers are cancers of tissues or cancers of hematopoietic origin

16. The method according to claim 7, wherein the compound modulates protease activity *in vitro*.

17. A method for treating a disease or disorder, comprising administering to a patient in need of such treatment a pharmaceutical composition comprising a protease having an amino acid sequence selected from the group consisting of SEQ ID NOs 1-92.

18. A method for detection of a protease in a sample as a diagnostic tool for a disease or disorder, comprising (a) contacting the sample with a nucleic acid probe which hybridizes under hybridization assay conditions to a nucleic acid target, the target encoding a protease having an amino acid sequence selected from the group consisting of SEQ ID NOs 1-92, or fragments thereof, or the complements of the sequences and fragments thereof; and (b) detecting the presence or amount of the probe:target region hybrid as an indication of the disease.

19. A method for detection of a protease in a sample as a diagnostic tool for a disease or disorder, comprising: (a) comparing a nucleic acid target region encoding a protease in a sample, wherein the protease has an amino acid sequence selected from the group consisting of SEQ ID NOs 1-92 or one or more fragments thereof, with a control nucleic acid target region encoding the protease polypeptide, or one or more fragments thereof; and (b) detecting differences in nucleotide or predicted amino acid sequence or amount between the target region and the control target region, as an indication of said disease or disorder.

20. An antibody that binds to a part of a protein comprising the sequence described in any one of SEQ ID NOs. 1-92.